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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/964,601	09/28/2001	Hans Braendle	622/43770CO	2035

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CROWELL & MORING, L.L.P.
P. O. Box 14300
Washington, DC 20044-4300

EXAMINER

BLACKWELL RUDASIL, GWENDOLYN A

ART UNIT	PAPER NUMBER
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1775

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DATE MAILED: 02/03/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/964,601

Applicant(s)

BRAENDLE ET AL.

Examiner

Gwendolyn A. Blackwell-Rudasill

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 December 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 and 21-30 is/are pending in the application.
- 4a) Of the above claim(s) 21 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12, 23-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 04 December 2002 is: a) ☒ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. Applicant should note, new claims 24-31 have been renumbered as 23-30 pursuant to 37 CFR 1126 and will hereinafter be referred to as such. There were two claim 20 present in the application. The second claim 20 was renumbered 21, however in the cancellation of the method claims 13-20, 22, and 23, 21 is not included are part of the cancelled group. Should renumbered claim 21 be cancelled also as drawn to the cancelled method claims?

Response to Arguments

2. Applicant's arguments with respect to claims 1-12 have been considered but are moot in view of the new ground(s) of rejection.

Double Patenting

3. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

4. Claims 1-2, 4-12, 25, and 27-30 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1-7, 9-11, and 15-18 of U.S. Patent No. United States Patent 6,274,249, Braendle et al. Although the conflicting claims are not identical, they are not patentably distinct from each other because although the claims to the

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present invention claim that tool should not be a solid carbide end mill or a solid carbide ball nose mill, Braendle et al does disclose in claim 1 that the tool can be a cemented carbide gear cutting tool. The present application, in claim 2, also discloses that the coating can be used on a cemented carbide cutting tool. As such, it would have been obvious to one skilled in the art at the time of invention to use the protective coating on tools other than the end mill and nose mill like a cemented carbide cutting tool.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

6. Claims 1-4, 7-12, and 23-26 are rejected under 35 U.S.C. 102(e) as being anticipated by United States Patent Application Publication no. 2002/0136933, Braendle.

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C.

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102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Braendle discloses a wear protective coating used on a work piece wherein the I(200)/I(111) ratio ranges from 1.5-15.1 for TiAlN, (page 3, Table 1). TiN, TiCN, and TiAlCN are other materials that can be used as the protective layers, (page 2, section 0014). Steel or a hard metal, wherein hard metals are considered cemented carbides (page 1, section 0003), are used as the substrate for the protective coating. The substrate can take the form of inserts, drills, or a gear cutting tools, meeting the requirements of claims 1-4 and 23-24, (page 2, section 0038).

Braendle also discloses that a layer of TiN may be deposited between the substrate and the outer layer having a thickness of 0.5 μm , meeting the requirements of claims 7-8, (page 2, sections 0017-0026). In addition, the stress within the layer should maximally be 2 GPa, meeting the requirements of claims 9 and 25-26, (page 2, section 0017). Titanium and aluminum are both contained in a ratio of 50/50, meeting the requirements of claims 10-12, (page 3, section 0047).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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8. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

9. Claims 5-6 and 27-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over United States Patent Application Publication 2002/0136933 A1, Braendle, as applied to claim 1 above, and further in view of European Patent Application Publication 0 701 982 A, EP '982.

10. The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). For applications filed on or after November 29, 1999, this rejection might also be overcome by showing that the subject matter of the reference and the claimed invention were, at the time the invention was made, owned by the same person or

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subject to an obligation of assignment to the same person. See MPEP § 706.02(l)(1) and § 706.02(l)(2).

Braendle discloses the limitations of claim 1 as set out above. Braendle do not specifically disclose the additional elements or the amount of titanium or aluminum as exemplified by applicant.

EP '982 discloses tools with a substrate of high-speed steel or cemented carbide coated with a film of titanium aluminum nitride, where the film is represented by the formula for cubic $Ti_xAl_{1-x}N$ with ($x > 0.25$) and hexagonal $Ti_yAl_{1-y}N$ with ($y \leq 0.25$). Aluminum should be present in an amount of 2-50 wt%, (page 6, lines 1-6). Yttrium may be added in amounts suitable to improve the properties of the layered film, (page 5, lines 17-23). The tools made according to the invention can be shaped and machined into cutting tools such as tips and drills, (page 5, lines 48-51). An intermediate layer, having a thickness of 0.05 to 5.0 μm , may be placed between the substrate and the tool body. The intermediate layer can be made of a material "selected from a group comprising boride, nitride, carbide, and oxide of IVA, VA, and VIA elements and their solid solutions," (page, 4, lines 6-14).

Braendle and EP '982 represent analogous inventive concepts that are drawn to protective coatings of tool surfaces. While EP '982 does not specifically disclose the I(200)/I(111) intensity ratio for the protective coating, it would have been obvious to one skilled in the art at the time of invention to modify the coating of Braendle with the composition of EP '982 with the varying amounts of titanium and aluminum with the addition of yttrium to create a protective coating that has improved oxidation-resistance and chemical stability that in turns improves the protective properties of the coating. An increase in the wear protective properties results in a tool that has an increased service life.


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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gwendolyn A. Blackwell-Rudasill whose telephone number is (703) 305-9741. The examiner can normally be reached on Monday - Thursday; 6:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Deborah Jones can be reached on (703) 308-3822. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.


Gwendolyn A. Blackwell-Rudasill
Examiner
Art Unit 1775


DEBORAH JONES
SUPERVISORY PATENT EXAMINER

gbr
January 27, 2003